



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Robert Starkston et al.

Examiner: Samuel M. Heinrich

Serial No.: 10/674,960

Group Art Unit: 1725

Filed: September 30, 2003

Docket: 884.949US1

For: METHODS FOR LASER SCRIBING WAFERS

Assignee: Intel Corporation

APPEAL BRIEF UNDER 37 CFR § 41.37

Mail Stop Appeal Brief- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The Appeal Brief is presented in support of the Notice of Appeal to the Board of Patent Appeals and Interferences, filed on September 11, 2006, from the Final Rejection of claims 16-21, 23-27, and 29-38 of the above-identified application, as set forth in the Final Office Action mailed on May 10, 2006.

The Commissioner of Patents and Trademarks is hereby authorized to charge Deposit Account No. 19-0743 in the amount of 500.00 which represents the requisite fee set forth in 37 C.F.R. § 41.2(b)(2). The Appellants respectfully request consideration and reversal of the Examiner's rejections of pending claims.



APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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1. REAL PARTY IN INTEREST

The real party in interest of the above-captioned patent application is the assignee,
INTEL CORPORATION.

2. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant that will have a bearing on the Board's decision in the present appeal.

3. STATUS OF THE CLAIMS

The present application was filed on September 30, 2003 with claims 1-31. A non-final Office Action containing a restriction requirement was mailed August 24, 2005. In response to the August 24, 2005 Office Action, claims 1-15 and 28 were canceled, and claims 32-38 were added. An Office Action mailed November 28, 2005 rejected claims 16-21, 23-27 and 29-38. Claims 1-34 were rejected. A Final Office Action (hereinafter "the Final Office Action") was mailed May 10, 2006 in which claims 16-21, 23-27 and 29-38 were rejected. An Amendment and Response after final was sent July 10, 2006. An Advisory Action was mailed August 10, 2006 in which the amendment after final was not entered and claims 16-21, 23-27 and 29-38 remained rejected. Claims 16-21, 23-27 and 29-38 stand twice rejected, remain pending, and are the subject of the present Appeal.

4. STATUS OF AMENDMENTS

No amendments have been made subsequent to the Final Office Action dated May 10, 2006.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Some aspects of the present inventive subject matter include, but are not limited to, a method for laser scribing including laser scribing a first continuous line 710, laser scribing a second continuous line spaced apart from the first continuous line 712, and laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line 714. In another embodiment, the inventive subject matter includes laser treating a first area of the wafer 1010, laser treating a second area adjacent the first area 1012 and laser scribing a third continuous line, the third continuous line positioned between the first area and the second area 714. The inventive subject matter also includes an apparatus that includes a laser 110 adapted to direct laser energy toward a wafer 120, a saw 150, a microprocessor 2004 for controlling the direction of the laser energy and controlling the movement of the saw; and a memory 2032 operatively coupled to the microprocessor 2004. The memory 2032 includes an instruction set 1310 to cause a suitably programmed apparatus to laser scribe a first continuous line on a wafer 710, and laser scribe an area near the first continuous line but not contacting the first continuous line 712.

The subject matter of independent claim 16 is directed toward a method for laser scribing a wafer that includes laser scribing a first continuous line 710, laser scribing a second continuous line spaced apart from the first continuous line 712, and laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line 714.

The subject matter of claim 23 is directed toward a method for singulating dies from a wafer that includes laser scribing a first continuous line 810, laser scribing a second continuous line spaced apart from the first continuous line 812, laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line

814, and passing a saw through the area of the first continuous line, the second continues line and the third continuous line to cut the wafer 816.

The subject matter of claim 29 is directed toward an apparatus that includes a laser 110 adapted to direct laser energy toward a wafer 120, a saw 150, a microprocessor 2004 for controlling the direction of the laser energy and controlling the movement of the saw; and a memory 2032 operatively coupled to the microprocessor 2004. The memory 2032 includes an instruction set 1310 to cause a suitably programmed apparatus to laser scribe a first continuous line on a wafer 710, and laser scribe an area near the first continuous line but not contacting the first continuous line 712.

The subject matter of claim 32 is directed toward a method for laser scribing a wafer that includes laser treating a first area of the wafer 1010, laser treating a second area adjacent the first area 1012 and laser scribing a third continuous line, the third continuous line positioned between the first area and the second area 714.

This summary does not provide an exhaustive or exclusive view of the present subject matter, and Appellant refers to the appended claims and its legal equivalents for a complete statement of the invention.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 29-31 were rejected under 35 USC §102 (a & b) as being anticipated by any one of three references [JP 411284278 A (Toshiba Corp) or the Manor (U.S. 6,420,245) or the Peng et al. (U.S. 6,737,606)].

B. Claims 29-31 were also rejected under 35 U.S.C. 103(a) as obvious over any of JP 411284278 A (Toshiba Corp) or Manor (U.S. 6,420,245) or Peng et al. (U.S. 6,737,606). This rejection was set forth as an alternative to the rejection under 35 USC §102 (a & b) set forth immediately above.

C. Claims 16-21, 23-27, and 32-38 were rejected under 35 USC §102 (a & b) as being anticipated by P355046579A (Toshiba Corp) or JP353002074A (NEC Home Electronics LTD) or Boyle et al. (U.S. 6,586,707).

D. Claims 16-21, 23-27, and 32-38 were also rejected under under 35 U.S.C. 103(a) as obvious over P355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in view of Boyle et al. (U.S. 6,586,707). This rejection was set forth as an alternative to the rejection under 35 USC §102 (a & b) set forth immediately above.

7. ARGUMENT

A) The Applicable Law under 35 U.S.C. §102(a & b)

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *In re Dillon* 919 F.2d 688, 16 USPQ 2d 1897, 1908 (Fed. Cir. 1990) (en banc), cert. denied, 500 U.S. 904 (1991). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, “[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added).

B) Discussion of the rejection of claims 29-31 under 35 U.S.C. 102(a & b) as being anticipated by any one of three references [JP 411284278 A (Toshiba Corp) or the Manor (U.S. 6,420,245) or the Peng et al. (U.S. 6,737,606)].

Claims 29-31 were rejected under 35 USC §102 (a & b) as being anticipated by any one of three references [JP 411284278 A (Toshiba Corp) or the Manor (U.S. 6,420,245) or the Peng et al. (U.S. 6,737,606)]. The Examiner stated in the Advisory Office Action dated August 10, 2006 that claims 29-31 “...are apparatus claims and applicant has described the function of an instruction set as being apparatus structure. The instruction set is not structure.” (See continuation of paragraph 11 on page 2 of the Advisory Action dated August 10, 2006).

This rejection is respectfully traversed. Appellant respectfully submits that the Final Office Action failed to make a proper prima facie case since each reference fails to disclose each element of the claim under consideration, much less, the presence in a single prior reference of each and every element of the claimed invention, arranged as in the claim. Claim 29 recites”... a microprocessor for controlling the direction of the laser energy and controlling the movement of the saw” and “...a memory operatively coupled to the microprocessor, said memory operatively coupled to the microprocessor; said memory including an instruction set to cause a suitably

programmed apparatus to laser scribe a first continuous line on a wafer; and laser scribe an area near the first continuous line but not contacting the first continuous line.” None of the references [JP 411284278 A (Toshiba Corp) or the Manor (U.S. 6,420,245) or the Peng et al. (U.S. 6,737,606)] mentions a memory that includes an instruction set. In addition to not mentioning an a memory that includes an instruction set, none of the references cited [JP 411284278 A (Toshiba Corp) or the Manor (U.S. 6,420,245) or the Peng et al. (U.S. 6,737,606)] teaches a memory having an instruction set that specifically causes “...a suitably programmed apparatus to laser scribe a first continuous line on a wafer; and laser scribe an area near the first continuous line but not contacting the first continuous line.” This limitation is recited in Claim 29. No reference cited includes the instruction set, or the instruction set stored in memory associated with the microprocessor which controls the saw. Other specific elements are also missing from some of these references. For example, Manor does not even disclose a microprocessor. As a result, Appellant submits that a proper prima facie case of anticipation was not made with respect to claim 29 and claims (30 and 31) that depend therefrom.

The Examiner’s contention that the instruction set is not an apparatus also is incorrect. The instruction set is part of memory associated with a microprocessor and causes the apparatus to laser scribe a first continuous line on a wafer, and laser scribe an area near the first continuous line but not contacting the first continuous line. The instruction set in memory forms the apparatus. In fact, the instruction set and memory cause the apparatus to produce a useful, concrete and tangible result (laser scribing the first line and laser scribing an area) and therefore forms a specific machine. The specific machine is an apparatus. Appellant contends that claimed invention, like the invention of *In re Alappat* is not a disembodied mathematical concept which may be characterized as an ‘abstract idea,’ but rather a specific machine to produce a useful, concrete, and tangible result.” [See *In re Alappat*, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994)] Therefore, the fact that no reference includes the recitation of claim 29 can not be discounted as not being an apparatus since the instruction set stored in memory causes the apparatus form a specific machine. For additional support, also see MPEP § 2106, II, A which states that “- Claims drawn to a rasterizer for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means were held to

be directed to patentable subject matter since the claims defined 'a specific machine to produce a useful, concrete, and tangible result.' In *re Alappat*, 33 F.3d 1526, 1544, 31 USPQ2d 1545, 1557 (Fed. Cir. 1994)." Therefore, Appellant respectfully submits that the Examiner failed to make out a proper *prima facie* case of anticipation since none of the references teach a memory having an instruction set that causes the apparatus to laser scribe a first continuous line on a wafer; and laser scribe an area near the first continuous line but not contacting the first continuous line. None of the references teach a specific machine that produces this useful, concrete and tangible result. It should also be noted that claims 30 and 31 depend from claim 29 and include the limitations of that claim. Accordingly, claims 30 and 31 also are not properly rejected under 35 USC §102 (a & b).

C) The Applicable Law under 35 U.S.C. §103(a)

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

D) Discussion of the rejection of claims 29-31 under 35 U.S.C. 103(a) as being obvious over any of JP 411284278 A (Toshiba Corp) or Manor (U.S. 6,420,245) or Peng et al. (U.S. 6,737,606).

Claims 29-31 were also rejected under 35 U.S.C. 103(a) as being obvious over any of JP 411284278 A (Toshiba Corp) or Manor (U.S. 6,420,245) or Peng et al. (U.S. 6,737,606). This rejection was set forth as an alternative to the rejection under 35 USC §102 (a & b) set forth

immediately above (in section 7B). One interpretation of the rejection is that the rejection is actually three separate rejections using any one of the cited references standing alone. If that is the proper interpretation, none of the JP 411284278 A (Toshiba Corp) or the Manor (U.S. 6,420,245) or the Peng et al. (U.S. 6,737,606) references, standing alone, can be said to make a proper *prima facie* case of obviousness with respect to claims 29-31 since each fails to teach or suggest all the claim limitations. None of the references teach or suggest an instruction set, or a memory that includes an instruction set included that specifically causes the laser to scribe a first continuous line on a wafer and laser scribe an area near the first continuous line, as recited in Claim 29. Furthermore, there is no teaching or suggestion of a memory with an instruction set that causes the apparatus to laser scribe anything near the first laser scribed line. There is also no reason within the references or in the knowledge generally available to one of ordinary skill in the art, to modify the reference teachings to yield appellant's invention.

In addition, if the above interpretation is correct, the Examiner is also making three rejections based on a single reference. Appellant respectfully traverses the single reference rejection under 35 U.S.C. § 103(a) since not all of the recited elements of the claims are found in the any one reference. Since all the elements of the claim are not found in any one reference, Appellant previously requested that the Examiner cite a reference that includes laser scribing a first continuous line, and laser scribing an area near the first continuous line. The Examiner did not cite an additional reference nor did the Examiner place an affidavit of personal knowledge in the file for any elements the Examiner has failed to produce in any of the references (either JP 411284278 A, or Manor, or Peng et al.) clearly showing an element or elements. Accordingly, the rejection under 35 U.S.C. § 103(a) is overcome with respect to claims 29-31.

The other interpretation of the above rejection is that the claims are rejected on the basis of any combination of the three stated references. This appears to be the interpretation the Examiner feels is correct (see the Examiner's Response to Arguments on pp 3 and 4 of the Final Office Action dated May 10, 2006). If this is the proper interpretation, it appears that the Examiner is admitting that the separate references do not teach all the claimed elements and are therefore improper references to support a 35 U.S.C. § 102(a & b). In addition, even if this interpretation is proper, the Examiner still has not made out a proper *prima facie* case of

obviousness with respect to claim 29-31. As pointed out above, none of the references cited (JP 411284278 A, or Manor, or Peng et al.) teach or suggest an instruction set, or a memory that includes an instruction set included that specifically causes the laser to scribe a first continuous line on a wafer and laser scribe an area near the first continuous line, as recited in Claim 29. As a result, any combination of references simply falls short of the claimed invention. Simply put, combining three references that each lack an element still produces a device that lacks the element. In short, the combination of any of the references (JP 411284278 A, or Manor, or Peng et al.) fails to teach or suggest all the claim limitations as required. Accordingly, claim 29 overcomes the Examiner's rejection under 35 U.S.C. § 103(a) since none of the recited references teaches or suggests all the claim limitations. Therefore, no matter which way the Examiner's rejection under 35 U.S.C. § 103(a) is interpreted, claim 29 overcomes the rejection. Claims 30 and 31 depend from claim 29 and include the recitations of claim 29 and overcome the rejection under 35 U.S.C. § 103(a) for the same reason.

E) Discussion of the rejection of claims 16-21, 23-27, and 32-38 under 35 USC §102 (a & b) as being anticipated by P355046579A (Toshiba Corp) or JP353002074A (NEC Home Electronics LTD) or Boyle et al. (U.S. 6,586,707).

With respect to claims 16 and 23, none of the references [P355046579A (Toshiba Corp) or JP353002074A (NEC Home Electronics LTD) or Boyle et al. (U.S. 6,586,707)] taught laser scribing a first continuous line and a second continuous line, and laser scribing a third continuous line between the first and second line. More specifically, none of the references taught laser scribing a third continuous line between the first and second line, as recited in the claim. The P355046579A (Toshiba Corp) and JP353002074A (NEC Home Electronics LTD) discussed laser scribing but not the laser scribing of the third continuous line between the first and second lines. The Examiner does not state that any of the references teach laser scribing the third continuous line between the first and second lines. In the final office action, the Examiner points out that the Toshiba reference describes "...dicing a wafer with a first laser scribe step and a second dicing saw or blade scriber cut step." In the advisory office action, the Examiner appears to restate that the Toshiba reference teaches two scribing steps (one for the wafer and one for the

pellets). The Examiner states that "...multiple passes are described and performing a narrow scribe step after a wider scribe step provides all narrow scribe energy for the target and not for repeating a wide scribe." (see page 2 of the Advisory Office Action dated August 10, 2006). According to the Examiner, the Boyle et al. reference teaches "... plural laser passes in the formation of a precisely formed slot." (see page 2 of the Advisory Office Action dated August 10, 2006). The Examiner fails to state that any reference teaches the invention of laser scribing a first continuous line and a second continuous line, and laser scribing a third continuous line between the first and second line, as recited in independent claims 16 and 23. The Appellant also fails to find any such teaching in the references cited.

Accordingly, the Examiner failed to make out a proper prima facie case of anticipation with respect to independent claims 16 and 23, since each and every element as set forth in the claim is not found, nor expressly or inherently described, in a single prior art reference. The same is true for the claims which depend from claim 16, namely claims 17-21, and for the claims which depend from claim 23, namely claims 24-27.

With respect to claim 32, none of the references [P355046579A (Toshiba Corp) or JP353002074A (NEC Home Electronics LTD) or Boyle et al. (U.S. 6,586,707)] taught laser treating a first area of the wafer, laser treating a second area adjacent the first area, and laser scribing a third continuous line, the third continuous line positioned between the first area and the second area. Again, there is no teaching of laser scribing a third continuous line, and laser scribing the third continuous line between the first area and the second area. Accordingly, the Examiner failed to make out a proper prima facie case of anticipation with respect to independent claim 32, since each and every element as set forth in the claim is not found, nor expressly or inherently described, in a single prior art reference. The same is true for the claims which depend from claim 32, namely claims 33-38.

F) Discussion of the rejection of claims 16-21, 23-27, and 32-38 under 35 USC §103(a) as obvious over P355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in view of Boyle et al. (U.S. 6,586,707).

Claims 16-21, 23-27, and 32-38 were also rejected under 35 U.S.C. 103(a) as obvious over P355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in view of Boyle et al. (U.S. 6,586,707). This rejection was set forth as an alternative to the rejection under 35 USC §102 (a & b) set forth immediately above (in section 7E).

Appellant submits that this alternative rejection under 35 U.S.C. 103(a) is an admission that each of the references falls short of the claimed invention and is therefore not anticipated by any of these references. In other words, the alternative rejection seems to indicate that the rejection under 35 U.S.C. 102(a) falls short of reciting all elements in one reference.

Now addressing specifically the rejection under 35 U.S.C. 103(a), the combination of the references simply falls short of the appellant's inventions as claimed in claims 16 and 23. As noted above, none of the references teaches scribing three lines as recited in the claim. There also appears to be no suggestion of this recitation. Furthermore, none of the references teaches scribing the third line between the first and second lines. Therefore, since none of the references teaches or suggests scribing three lines or describes scribing the lines with the third being positioned between the first two scribe lines, the combination of the prior art references fails to teach or suggest all the claim limitations.

In addition, there appears to be no suggestion of placing a third scribe line between the first two scribe lines as recited in the claim 16 or claim 23. At best, Boyle is described as forming multiple scribe lines and there is no teaching as to the position of these scribe lines, much less the third scribe line, other than to make a single slot. The other references do not appear to provide the missing element since each teach scribing in two areas rather than in a single slot. Consequently, there is no third scribe line unless one is to improperly use the claims of the invention as a guide so that the references scribing in two areas or lines are somehow to add a new line because of a reference that teaches multiple passes for forming a single slot. As a result, the Examiner's rejection of claims 16 and 23 under 35 USC §103(a) as obvious over P355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in

view of Boyle et al. (U.S. 6,586,707) is overcome. In addition, the claims that depend from claim 16, namely claims 17-21, and the claims which depend from claim 23, namely claims 24-27, now also overcome the Examiner's rejection of claims 16 and 23 under 35 USC §103(a) as obvious over P355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in view of Boyle et al. (U.S. 6,586,707) since they include the same recitation as the independent claim from which they depend.

Claim 32 recites "...laser treating a first area of the wafer; laser treating a second area adjacent the first area; and laser scribing a third continuous line, the third continuous line positioned between the first area and the second area." The JP355046579A (Toshiba Corp) reference teaches only forming one scribe line. There is no teaching of laser treating a first area or laser treating a second area. The JP353002074A (NEC Home Electronics LTD) teaches two scribing lines over the same area. There is no laser treating a first area and a second area. The Boyle et al. (U.S. 6,586,707) reference teaches forming a single slot with multiple passes using a laser machining process. One of ordinary skill in the art would not combine either or both of the JP355046579A (Toshiba Corp) reference and the JP353002074A (NEC Home Electronics LTD) since the laser machining of Boyle would obliterate any laser scribing. Therefore, the combination would have no reasonable expectation of success. In addition, the combination falls short since there is no teaching of a third scribe line. As a result, claim 32 is not obvious in view of the combination of JP355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in view of Boyle et al. (U.S. 6,586,707). Claims 33-38 also would not be obvious in view of the combination of JP355046579A (Toshiba Corp) in view of JP353002074A (NEC Home Electronics LTD) and in view of Boyle et al. (U.S. 6,586,707) since these claims include the recitations of claim 32 by their dependency.

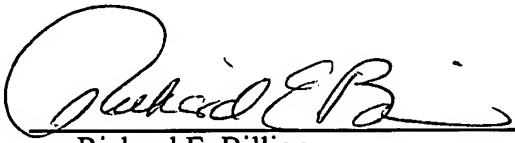
8. SUMMARY

For the reasons set forth above, claims 16-21 and 23-38 were not properly rejected under § 102(a & b) as being unpatentable over the references cited. In addition, claims 16-21 and 23-38 were not properly rejected under § 103(a) as being obvious in view of the references cited.

It is respectfully submitted that the art cited does not render the claims anticipated or obvious, and that the claims are patentable over the cited art. Reversal of the rejection and allowance of the pending claims are respectfully requested.

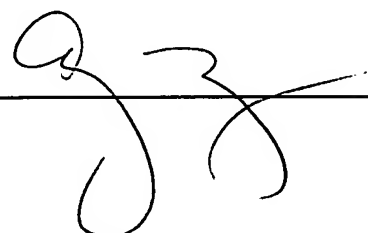
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Name Amy moriarty

Signature 

CLAIMS APPENDIX

1. - 15. (Canceled)

16. (Rejected) A method for laser scribing a wafer comprising:

laser scribing a first continuous line;

laser scribing a second continuous line spaced apart from the first continuous line; and

laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line.

17. (Rejected) The method for laser scribing a wafer of claim 16 wherein the first continuous line, the second continuous line and the third continuous line overlap.

18. (Rejected) The method for laser scribing a wafer of claim 16 wherein the third continuous line overlaps the second continuous line and the third continuous line.

19. (Rejected) The method for laser scribing a wafer of claim 16 wherein the first continuous line, the second continuous line and the third continuous line are formed from overlapping pulses from a laser.

20. (Rejected) The method for laser scribing a wafer of claim 16 wherein the first continuous line, the second continuous line and the third continuous line overlap are in an area having a width greater than the width of a saw blade.

21. (Rejected) The method for laser scribing a wafer of claim 16 wherein the first continuous line, the second continuous line and the third continuous line overlap are in an area having a width greater than the width of a kerf from a saw blade.

22. (Canceled)

23. (Rejected) A method for singulating dies from a wafer comprising:
laser scribing a first continuous line;
laser scribing a second continuous line spaced apart from the first continuous line;
laser scribing a third continuous line, the third continuous line positioned between the first continuous line and the second continuous line; and
passing a saw through the area of the first continuous line, the second continuous line and the third continuous line to cut the wafer.

24. (Rejected) The method for singulating dies from a wafer of claim 24 wherein the first continuous line, the second continuous line and the third continuous line overlap.

25. (Rejected) The method for singulating dies from a wafer of claim 24 wherein the third continuous line overlaps the second continuous line and the third continuous line.

26. (Rejected) The method for singulating dies from a wafer of claim 24 wherein the first continuous line, the second continuous line and the third continuous line are formed from overlapping pulses from a laser.

27. (Rejected) The method for singulating dies from a wafer of claim 24 wherein the first continuous line, the second continuous line and the third continuous line overlap are in an area having a width greater than the width of a kerf from a saw blade.

28. (Canceled)

29. (Rejected) An apparatus comprising:

a laser adapted to direct laser energy toward a wafer;

a saw

a microprocessor for controlling the direction of the laser energy and controlling the movement of the saw;

a memory operatively coupled to the microprocessor; said memory including an instruction set to cause a suitably programmed apparatus to

laser scribe a first continuous line on a wafer; and

laser scribe an area near the first continuous line but not contacting the first continuous line.

30. (Rejected) The apparatus of claim 29 wherein the laser scribe of the area near the first area includes laser scribing a second line near the first line and further comprising laser scribing a third line overlapping the first continuous line and the second line.

31. (Rejected) The apparatus of claim 29 wherein the laser scribe of the area near the first area includes producing a plurality of spaced laser ablations in the area adjacent the first continuous line.

32. (Rejected) A method for laser scribing a wafer comprising:

laser treating a first area of the wafer;

laser treating a second area adjacent the first area; and

laser scribing a third continuous line, the third continuous line positioned between the first area and the second area.

33. (Rejected) The method for laser scribing a wafer of claim 32 wherein at least a portion of the first area, a portion of the second area and a portion of the third continuous line overlap.

34. (Rejected) The method for laser scribing a wafer of claim 32 wherein the third continuous line overlaps the second area and the third area.

35. (Rejected) The method for laser scribing a wafer of claim 32 wherein the first area, the second area and the third continuous line are formed from overlapping pulses from a laser.

36. (Rejected) The method for laser scribing a wafer of claim 32 wherein the first area, the second area and the third continuous line overlap are in an area having a width greater than the width of a saw blade.

37. (Rejected) The method for laser scribing a wafer of claim 32 wherein the first area, the second area and the third continuous line overlap are in an area having a width greater than the width of a kerf from a saw blade.

38. (Rejected) The method for laser scribing a wafer of claim 32 wherein the first area, the second area and the third continuous line overlap are in an area having a width greater than the width of a kerf produced by a saw blade.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.